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Review of KAWAI, HORI, KAWAHARA, & INAGAKI, *Atlas of Japanese Scarabaeoidea. Volume 1. Coprophagous Group.*

Brett C. Ratcliffe

University of Nebraska-Lincoln, bratcliffe1@unl.edu

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BOOK REVIEW

U. R. MARTINS (organizer, editor, author). 1997—present. **Cerambycidae Sul-Americanos**. Monographic Series, Sociedade Brasileira de Entomologia [SBE], São Paulo, Brasil. Volumes 1–4 available from the Sociedade Brasileira de Entomologia <<http://zoo.bio.ufpr.br/sbe/>>. Prices and postage vary by volume. Volume 5 is available from: Editora da Universidade de São Paulo <<http://www.edusp.com.br/>>, e-mail edusp-venda@edu.usp.br. Suplemento 1 is available from Entomopraxis <<http://www.entomopraxis.com/Uk/book.htm>>.

Volumes published to date:

1997. **Cerambycidae Sul-Americanos. Taxonomia, Vol. 1:** Subfamília Cerambycinae: Oemini, Methiini, Dodecosini (with M.H.M. Galileo), Paraholopterini. Sociedade Brasileira de Entomologia, São Paulo. 217 pp, 171 figs. Price \$15 plus postage.
1998. **Cerambycidae Sul-Americanos. Taxonomia, Vol. 2:** Subfamília Cerambycinae: Phlyctaenodini, Holopterini (with M.A. Monné), Uracanthini, Pleiarthrocerini (with M.H.M. Galileo), Ectenessini. Sociedade Brasileira de Entomologia, São Paulo. 195 pp, 216 figs. Price \$12 plus postage.
1999. **Cerambycidae Sul-Americanos. Taxonomia, Vol. 3:** Subfamília Cerambycinae: Hesperophanini (with M.H.M. Galileo), Eburiini, Diorini. Sociedade Brasileira de Entomologia, São Paulo. 418 pp, 271 figs. Price \$20 plus postage.
2002. **Cerambycidae Sul-Americanos. Taxonomia, Vol. 4:** Subfamília Cerambycinae: Erlandiini, Smodicini (with M.H.M. Galileo), Achrysonini, Cerambycini (in part)(with M.A. Monné). Sociedade Brasileira de Entomologia, São Paulo. 265 pp, 287 figs. Price \$30 plus postage.
2005. **Cerambycidae Sul-Americanos. Taxonomia, Vol. 5:** Subfamília Cerambycinae: Cerambycini, subtribe Sphallotrichina, Callidiopini, Graciliini, Neocorini. Editora da Universidade de São Paulo. 284 pp, 425 figs.
2003. **Cerambycidae Sul-Americanos. Taxonomia, Vol. 6:** Subfamília Cerambycinae: O브리ni, Oxycoleini, Acangasuini (with M.H.M. Galileo), Lusco-modicini, Psebiini, Piezocerini, Sydacini. Sociedade Brasileira de Entomologia, São Paulo. 232 pp, 261 figs.
2005. **Cerambycidae Sul-Americanos. Taxonomia, Vol. 7:** Subfamília Cerambycinae: Elaphidionini. Sociedade Brasileira de Entomologia, São Paulo. 394 pp, 324 figs.
2004. **Cerambycidae Sul-Americanos, Suplemento 1** (U.R. Martins, H.M.H. Galileo). Argania editio, S.C.P., Balmes, 61, pral. 3, 08007 Barcelona, España. Price: 134 Euros.

Without a doubt, the Central and South American component of the world cerambycid fauna exhibits greater species diversity and taxonomic complexity than does that of any other geographical realm. The Cerambycidae Sul-Americanos is the most ambitious project ever undertaken for the Neotropical Cerambycidae and is coordinated by the “dean” of South American long-horned beetle study, Ubirajara R. Martins (University of Sao Paulo, Brazil), with generous collaboration from several other notable Brazilian experts on the fauna.

Persons unfamiliar with the family Cerambycidae in the New World tropics need only visit a recent checklist or catalogue to get a sense of the breadth of some of the tribes, but even current lists of already-described taxa likely represent no more than one-half of the total species presently in collections. Thousands of species already have been described from South America, but until recently there have been relatively few taxonomic treatments at the tribal level, and nothing even comparable to the Biologia Centrali-Americana. The Cerambycidae Sul-Americanos project, then, is a magnificent and heroic effort to collate, organize and present the disparate elements that have heretofore comprised the taxonomic literature of this family for that region. The initial 7 volumes together total over 2,000 pages (with nearly 2,000 figures), yet represent only a portion of the subfamily Cerambycinae, including the complex tribes Hesperophanini, Eburiini, Cerambycini, Elaphidionini, and many smaller tribes.

As would be expected within such a vast undertaking, the taxonomic approach is straightforward, practical and basic; each taxon level is described or redescribed as appropriate, fully discussed, including its taxonomic history, and keys are provided to genera within tribes and to species within genera. Text is in Portuguese. Most species are illustrated, either by habitus drawings or photographs, many in color. Illustration quality varies considerably, as many figures

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KAWAI, S., S. HORI, M. KAWAHARA, AND M. INAGAKI (authors and editors). 2005. **Atlas of Japanese Scarabaeoidea. Volume 1. Coprophagous Group.** Roppon-Ashi Entomological Books, Tokyo, Japan. 189 pp. ISBN # 4-902649-02-0. Hard cover. Available from roppon-ashi@kawamo.co.jp. Price 18,000 (about \$162 in August 2005).

Increasingly enhanced digital technology keeps raising the bar for quality of entomological publications, and this handsome book sets a new, high standard for scientific illustrations of scarab beetles. Simply put, this book is a thing of functional beauty! I wish that we could all make presentations like this in our scientific publications—how much more exciting our science could be.

This *Atlas* (and it is just that) is the first volume in a proposed three volume set that will deal with the Japanese scarabaeoid fauna. It covers the coprophagous scarabaeoids that occur in Japan (including the Ryukyu Islands): Trogidae, Ceratocanthidae, Bolboceratidae, Geotrupidae, Hybosoridae, Ochodaeidae, and finally Scarabaeinae, Aphodiinae, and Aegialiinae (all Scarabaeidae). A brief introduction (in Japanese) explains “how” the book works, including the “bar chart” representations used for each species to show geographical distribution in Japan, temporal occurrence, and habitat type. Pages 8 and 9 each have a full-page color plate of a dorsal and ventral view of an aphodiine with all of its basic body parts labeled in English and Japanese; the images are remarkable for their size and clarity, especially when you consider the actual beetle is so small . . . and that a larger beetle (*Copris* or *Phelotrupes* species) perhaps could have been used more easily. The next few pages contain functional picture keys to families, tribes, and generic groups based on high resolution images of diagnostic characters.

The following 169 full-page, color plates are devoted to a single species on each page. Each species treatment has the scientific name and at least four complete habitus views (dorsal, oblique, side, and ventral), top of head, close-up of pronotal and elytral sculpturing, right half of the anterior half of the specimen, foretibia of male and female, and two views of the aedeagus. Each species also has the "bar chart" representation of distribution and habitat as well as size range and an indication of relative abundance (1 star = most abundant, 5 stars = rare). Occasionally, multiple views of the head and posterior tarsus are included if there are differences between the sexes. The specimens used in the illustrations are all immaculately pristine, clean, and perfectly mounted with antennae and often palpi positioned as well. A few species, e.g., *Phelotrupes auratus* (Motschulsky) and *P. laevistriatus* (Motschulsky), have as many as 25 different dorsal views to show the range of color and/or pattern. The book concludes with indices in English and Japanese. While I cannot attest to possible typos in the Japanese script, I found only one spelling error: *D. gazalla* (Fabr.) instead of the correct *D. gazella*.

This volume is significant because of its incredible attention to detail in producing the finest images possible . . . even of small body parts on minute beetles. Unlike some other recently produced "coffee table-like" books with pretty pictures of beetles and other insects, the *Atlas of Japanese Scarabaeoidea* is dense with information and number of images per page. The illustration of important characters, and not just the whole beetle, adds important information and detail about each species.

The scarabaeoid fauna of Japan is diverse for such a small land area. Having collected there for four years at the beginning of my scarab studies, I know this is a result of the archipelago spanning (obliquely) nearly 3,000 km of longitude (approximately Boston to Atlanta) and a varied topography (75% of Japan is mountainous with 265 volcanoes). The result is a variety of climate regimes and habitats that support a broad array of insect diversity. There is also a strong conservation ethic in Japan that helps to keep significant parts of the country "natural."

This volume should enable identification of all the coprophagous and necrophagous scarabs occurring in Japan. This is particularly noteworthy because not all of these species can be found or keyed-out in comprehensive revisions or monographs. The *Atlas*, therefore, allows for identification of taxa by a broad range of people ranging from scientists and students to amateur collectors and resource managers.

This book will have its greatest appeal to students of the Japanese fauna or those conducting research with groups that contain the taxa represented here. It will also appeal to scarab bibliophiles who wish to own a truly magnificent book. I am greatly anticipating the next two volumes, and it will be interesting to see how the authors deal with really look-alike taxa in the Melolonthinae (June beetles). Based upon the results in this first volume, I suspect they won't have a problem. I highly recommend this book.

Brett C. Ratcliffe, W436 Nebraska Hall, University of Nebraska, Lincoln, NE 68588-0514, U.S.A. Email: bratcliffe1@unl.edu

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